

Core Value	Performance Measure		Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6	Rationale
			2 lane reversible	3 lane reversible	min PEIS	max PEIS	perm PPSL	temp PPSL	
			Options 1 & 2	Options 1, 2, & 3	Options 1, 2, 3, & 4	Options 1 & 2	Option 1	Option 1	
Safety	1	Does the alternative meet minimum design standards (AASHTO, CDOT, etc) of cross section, curvature, sight distance and grades?	Fair. Option 1 Managed Lanes (MLs) meet Stds. Option 1 existing roadway General Purpose Lanes (GPLs) do not meet Stds.	Fair. MLs meet Stds. Opt 1 and 3 existing roadway GPLs do not meet Stds.	Fair. All options meet standards where segments are improved, but entire corridor will not meet standards.	Good. All options meet standards.	Fair. All options meet standards where segments are improved, but entire corridor will not meet standards.	Poor. Existing roadway does not meet Stds., Reduced shoulder widths when in operation does not meet standard; FHWA has ability to grant variances.	Good - no major variances required; Fair - low risk minor variances required; Poor - major variances required. FHWA has ability to grant variances with proper justification.
	Good. Option 2 MLs and GPLs meet Stds.		Good. MLs and Opt 2 GPLs meet Stds.						
	2	Does the alternative provide safe reliable access?	Good. MLs provide direct connections at key locations. GPL Interchange improvements are included		Fair. Aux lanes will provide marginal operational benefits to access.	Good. GPLs access improved but Enter / exit MLs may require weaves thru GPLs.	Poor. Enter / exit MLs require weaves thru GPLs, minor improvements to interchange ramps.		Alternatives 5&6 do not provide reliable access when volume increases in the long term.
	3	Does the alternative provide protection for incident responders?	Good. MLs provide typical standard roadway width, direct connections at key locations & VMS traffic control. GPL Interchange improvements; can put all vehicles into ML for full protection in GPLs.		Fair. Roadway width typically 60'. Wide shoulders provide staging area for responders in majority of the corridor. Only improving specific locations.	Good. Widened roadway width typically 64'. Widened shoulders provide more staging areas.	Good. Roadway width typically 50'. While wide shoulders provide more staging area, roadway width is compromised..	Poor. Roadway width typically 39'.While shoulders in use for traffic minimizes staging areas, roadway width is compromised.	The wider roadways that are included with these alternatives as part of AASHTO standards will provide better coverage for incident responders. Incident Responders can respond to accident, stay within one lane and still let people pass.
	4	Does the alternative have the potential to reduce crashes?	Good. MLs are expected to provide a 10% reduction in accidents based on I-25 North and peer study with MNDOT.		Fair. Compared to the base case, and based on current research, this alternative has the potential to reduce crashes given its wider shoulders, but only in limited locations.	Good. Compared to the base case, and based on current research, this alternative has the potential to reduce crashes given its wider shoulders for majority of corridor.	Fair: Studies report a slight reduction of accidents on inside shoulder lanes in the near term.	Poor. Studies report a slight reduction of accidents on inside shoulder lanes in the near term. However, permance and safety measures for the facility in long term suffer as volumes increase.	LBG examined peer Managed Lane projects, with implementation of Managed Lanes, there is approximately a 10% reduction in crashes. For Alts 3&4 there is wider shoulders so there is a potential to reduce accident. Adding inside shoulders typically reduces accidents. VMT is raised on many of the alternatives so that may offset some of the improvements. With alt 6, a net improvement in safety is anticipated, however longterm, Alt 6 does not solve any of the problems.
Mobility	5	Does the alternative reduce travel times for long distance trips for all users?	Good. MLs provide additional capacity, reducing overall congestion & travel times in peak hours. MLs provide greater benefits for long distance trips. Operations in off-peak direction will suffer in out years.		Poor. Limited capacity improvements to reduce congestion & travel times.	Fair. With some increase in capacity, some reduction in congestion & travel times in peak hours. Operations in off-peak direction will be good in out years.	Fair. Limited capacity improvements to reduce congestion & travel times. Reduced travel time in the short term.	Poor. Limited capacity improvements to reduce congestion & travel times in the long term.	Alternatives 5 does make an improvement in travel when compared with the No Action Alternative, however it can't address long-term (50 year) solution for long distance travelers.
	6	Does the alternative reduce the travel time for short distance trips for all users both on and off the Interstate?	Good. MLs provide additional capacity, reducing overall congestion & travel times in peak hours. Operations in off-peak direction will suffer in out years.		Poor. Limited capacity improvements to reduce congestion & travel times.	Good. With some increase in capacity, some reduction in congestion & travel times in peak hours. Operations in off-peak direction will be good in out years.	Fair. Limited capacity improvements to reduce congestion & travel times.		With Alternatives 1 &2, there is a clear reduction in travel time but not in the non-tolled direction. Alternative 3 may induce traffic off of the insterstate and increase travel time on the local street system.
	7	Does the alternative offer competitive modal choices with reliable travel times?	Good. BRT Provides alternative mode of travel in managed lanes at start up.		Poor. Prior to implementation of AGS.				Alternatives 1&2 includes Bus Rapid Transit (BRT) on Opening Day, resulting in increased transit service. Alternatives 3-6 don't include a frequent reliable service until AGS can be implemted, assumed to be 2035.
Good once AGS in service.									

	8	Does the alternative allow for increased person trips?	Good. Added capacity & reduced congestion allow for increased person trips.	Poor. Limited capacity improvements to increase person trips.  Fair. Persons trips would increase after implementation of AGS.	Fair. With some increase in capacity & reduction in congestion person trips will increase.  Good. Persons trips would increase after implementation of AGS.	Fair. Limited capacity improvements may not increase person trips.  Fair. Persons trips would increase after implementation of AGS.	Poor. Limited capacity improvements may not increase person trips.  Fair. Persons trips would increase after implementation of AGS.	Additional capacity is assumed to equate increased person trips.
	9	Does the alternative provide for incident management?	Good. MLs aides in ability to manage, respond, and clear incidents. GPL Interchange improvements.	Fair. Improve opportunities in limited areas to manage, respond and clear incidents.	Good. Alternative aides in ability to manage, respond, and clear incidents.	Poor. Active Traffic Management is negligble improvement for long-term.		The wider roadways that are included with these alternatives as part of AASHTO standards will provide better coverage for incident responders. Improvements to interchanges may also help improve response time.

Constructability	10	Is the construction of the alternative financially feasible with the minimal funding?	Poor.	Poor.			Good.	A comparison was made between the cost of the Alternative (in each option used the most conservative scenario which included AGS) and the revenue using the March LBG revenue estimates.
				Poor. AGS not financially feasible at this time.				
	11	Does the alternative provide flexibility for future expansion and modification?	Fair. Wide footprint may not be economically widened further. AGS can be accommodated.	Good. Opportunity to increase capacity with other lanes. AGS is accommodated.	Fair. Wide footprint may not be economically widened further. AGS is accommodated.	Good. Opportunity to increase capacity with Adaptive Management. AGS is accommodated.		All of the alternatives accommodate the AGS. Alternatives 1 and 4 have the widest footprint so it may be difficult to accommodate additional capacity. Stakeholders advocated for an Adaptive Management approach in the PEIS, Alts 3,5 & 6 allow the greatest opportunity to incrementally implement improvements.
	12	Does the alternative have a positive impact on operations and maintenance?	Good. Wide shoulders allows for ease in O&M.			Fair. Minimal improvements to shoulders reduces ability to manage snow removal.		Bringing roadway shoulders up to standard should make accomodation of snow storage easier.

Engineering Criteria and Aesthetic	13	Does the alternative provide opportunities to balance aesthetics and engineering?	Fair					CONSIDERATIONS FOR DISCUSSION: Is it balancing corridor specific criteria with AASHTO standards.How do you adapt criteria and balance with aesthetic requirements? One argument for considerationcould be--- greater the opportunity for construction, the greater the opportunity to apply the CSS criteria.
	14	Does the alternative adhere to the I-70 CSS Mountain Corridor Guidelines and specific design criteria?	Fair					

Sustainability	15	Does the alternative protect existing natural resources?	Poor. Wider footprints would have more impact on natural resources, including secondary effects.	Fair. Minimal construction & narrower footprints would have minimal effects on natural resources.	Poor. Wider footprints would have more impact on natural resources, including secondary effects.	Fair. Minimal construction & narrower footprints would have minimal effects on natural resources. resources	The alternatives that have a wider footprint and remove the median would have more impacts to natural resources, including secondary effects. The Alternatives where there are minimum improvements and an AGS do a better job of protecting natural resources.
	Poor. It is estimated that the AGS would have substantial effects on natural resources.						
	16	Does the alternative use existing natural resources efficiently to generate improvements in efficiency and mobility?	This performance measure cannot be effectively evaluated until Level 2.				
17	Does the alternative have the potential to reduce life cycle costs?	Fair. MLs O&M by concessionaire. Wider pavement. New infrastructure provides better life cycle cost.	Good. Minimal capacity increase & congestion put pressure on CDOT O&M.	Fair. Capacity increase & congestion put pressure on CDOT O&M. Toll revenue available. New infrastructure provides better life cycle cost.	Fair. Minimal capacity increase & congestion put pressure on CDOT O&M. Toll revenue available. Aging infrastructure negatively impacts lifecycle cost	CONSIDERATION FOR DISCUSSION:Initial considerations look at life of the project improvements, how sustainable are they? Relative to this measure, one consideration is implementation of the Corridor Sediment Control Action Plans (SCAP), CDOT may have problems providing continual maintenance.	

Decision Making Process	18	Does the alternative provide opportunities for enhancements (i.e. recreational, community, environmental)?	Fair. Extent of project would provide opportunities for enhancements.	Fair. Extent of project would provide some opportunity for enhancements.	Fair. Extent of project would provide opportunities for enhancements.	Poor. Limited extent of project would provide little opportunity for enhancements.	All CDOT Mountain Corridor Projects strive for collaboration with local stakeholders to implement and assess enhancements wherever possible. Alternatives that address deficiencies along a greater length of the Corridor may provide greater opportunities for enhancements.
	19	Is the alternative consistent with the Record of Decision?	Poor. Dismissed in PEIS.	Good. Considered in PEIS & ROD.		Good. Considered in PEIS & ROD as providing capacity as 6 lanes.	This is based off "absolute adherence" with the ROD.
	20	Does the alternative have a minimal risk of legal opposition?	Poor. Rating based upon potential legal opposition. More outreach in future studies will better refine this.	Good		Fair.	Good

Community (Local, Regional, Statewide)	21	Does the alternative improve <b>accessibility/mobility</b> to key destinations along the corridor, including recreation areas?	Good. Less congestion, reduced travel times, & direct connections from MLs.	Poor. No real capacity improvements to reduce congestion & travel times.	Good. Less congestion, reduced travel times, & direct connections from MLs.	Fair. With some increase in capacity, some reduction in congestion & travel times.	Assessment based on the assumption that additional capacity will reduce travel times. In addition, improving the mainline access, local networks will see improvements to differing degrees.	
				Good once AGS in service.				
	22	Does the alternative have the potential to improve livability and vitality locally, regionally, and statewide?	Fair. Less congestion for traveling public; better access to communities; less congestion in communities.	Poor. Continued congestion; pent-up demand not released. Alternative would be fair in the short term.	Fair. Less congestion for traveling public; better access to communities; less congestion in communities.	Poor. Continued congestion; pent-up demand not released. Alternative would be fair in the short term.	The alternatives support livability and vitality regionally and statewide. Some of the local businesses support adding lanes to the Mountain Corridor, but many local stakeholders have concerns about noise, air quality and additional pollution associated with additional highway improvements. Continued congestion from suppressed demand may have negative economic consequences affecting local, regional and state vitality.	
Historic Context	23	Does the alternative have the ability to protect Historic Districts and Landmarks?	Poor. Wider footprints may have more potential to impact historic resources.	Good. Narrower footprints would have less potential to impact historic resources.	Poor. Wider footprints may have more potential to impact historic resources.	Good. Narrower footprints would have less potential to impact historic resources.	Alternatives with a wider footprint have more potential to impact historic resources.	
	24	Does the alternative have opportunities for mitigation and / or enhancement to historic districts and landmarks?	Fair.	Poor.	Fair.	Poor.	Ratings are based on the ability to improce access and interpretive opportunities	
Healthy Environment	25	Does the alternative have the potential to avoid immitigable environmental impacts?	Poor. Larger footprint creates risk for immitagable environmental impacts; opportunity to improve crossings, water quality, stream sinuosity, habitat, noise, air quality. NEPA will fully analyze impacts and determine mitigations.	Fair. Medium footprint.	Poor. Larger footprint creates risk for immitagable environmental impacts; opportunity to improve crossings, water quality, stream sinuosity, habitat, noise, air quality. NEPA will fully analysis impacts and determine mitigations.	Fair.	Good. Smaller footprint.	Alternatives 1 and 2 have no median and the most number of lanes, there would be more potential for impacts that cannot be mitigated. The Minimum Program of Improvements and the Interim Peak Period Shoulder Lanes have the least potential for immitigable impacts.
Fiscal Responsibility	26A	Does the alternative have the ability to be financially self sustaining in terms of capital costs with minimal public funding? *minimal defined as....	Poor. Toll revenue does not cover roadway capital costs and operations and maintenance costs.	Poor. No funding available to cover roadway capital costs and operations and maintenance costs.		Good. Toll revenue does cover roadway capital costs and operations and maintenance costs.	Based on Berger traffic and revenue findings.	
				Poor. No funding available to cover AGS costs.				
	26B	Does the alternative have the ability to be financially self sustaining in terms of operations and maintenance costs only, with minimal public funding? *minimal defined as...	Good.	Poor.	Good.		Based on Berger traffic and revenue findings.	